

PATENT ABSTRACTS OF JAPAN

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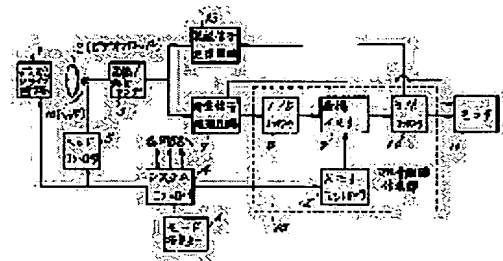
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(54) CONTENT PICTURE RECORDER

(57)Abstract:

PURPOSE: To make it possible to instantly display a content in a picture when a video floppy is loaded by preventing the degradation of the quality of each picture by performing 25 divisions of a multi-picture without the necessity of the preparation of the multi-picture every time the video floppy is exchanged.

CONSTITUTION: The pictures from 1 to 25 tracks are successively read and the pictures of 25 multi-screen are stored in a picture memory 9 by a multi-screen preparation part 15. These pictures of 25 multi-screen are recorded in -1 track by a recording signal processing circuit 13. The multi-screen processing is performed also for the pictures from 26 to 50 tracks in the same way and the pictures are recorded on -2 track. At the time of a reproduction, the pictures of the 25 multi-screen are reproduced on a monitor if the pictures are recorded on -1 and -2 tracks.



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CLAIMS

[Claim(s)]

[Claim 1] The regeneration circuit which performs read-out regeneration for the image of each truck of a video floppy. The multi-screen creation section which creates the multi-screen of the image reproduced in said regeneration circuit, The record processing circuit which changes into a record format the multi-screen created in said multi-screen creation section, and is recorded on a video floppy, and when it is set as a multi-screen recording mode, 25 multi-screens are created for the image of one to 25 truck in the read-out aforementioned multi-screen creation section from a recorded video floppy by said regeneration circuit. Said multi-screen is recorded on the truck outside one truck of a video floppy in said record processing circuit. The table-of-contents screen recording device characterized by constituting from a control section controlled to carry out processing with the same still more nearly said of the 26 to 50 next truck, and to record on an outside truck further from the truck of said outside.

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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Industrial Application] With an electronic "still" camera, this invention reads two or more images [finishing / photography] from a video floppy, carries out multi-screen processing, and relates to the table-of-contents screen recording device which can prepare the index of images in a video floppy corresponding to the image of one to 50 truck by recording this on the truck outside one truck of a video floppy.

[0002]

[Description of the Prior Art] The conventional multi-picture-features function prepared in the electronic "still" camera system was as follows. ** What is multi-displayed by incorporating in multi-screen memory in an order from eye 1 of a video floppy piece, memorizing in multi-screen memory, and displaying an image on a monitor. ** What makes it the multi-screen of 49 division of the image of two to 50 truck of a video floppy, or one to 49 truck, and displays the multi-screen on a monitor (JP,2-82768,A).

[0003]

[Problem(s) to be Solved by the Invention] the above-mentioned ** and ** — fixed time amount was required to create a multi-screen in any case, and the former had the fault that a multi-screen had to be re-created from the beginning in whenever [the], when a video floppy was replaced. Moreover, since the latter was not able to see the image of one truck or 50 trucks on a multi-screen but was dividing one screen into 49, its quality of each image was bad, and when the monitor display to reproduce was small, it had the fault that the check of the content of the screen itself became difficult. It is in the object of this invention offering the table-of-contents screen recording device which can display the table of contents by the image on an instant if solve each above-mentioned fault, it is not necessary to create a multi-screen to whenever [the] even if it replaces a video floppy, and it is made the multi-screen of 25 division instead of the multi-screen of 49 division of a multi-screen, the deterioration of each image is prevented and it equips with a video floppy.

[0004]

[Means for Solving the Problem] The regeneration circuit where the table-of-contents screen recording apparatus by this invention performs read-out regeneration for the image of each truck of a video floppy in order to attain said object. The multi-screen creation section which creates the multi-screen of the image reproduced in said regeneration circuit. The record processing circuit which changes into a record format the multi-screen created in said multi-screen creation section, and is recorded on a video floppy, and when it is set as a multi-screen recording mode, 25 multi-screens are created for the image of one to 25 truck in the read-out aforementioned multi-screen creation section from a recorded video floppy by said regeneration circuit. It consists of control sections controlled to record said multi-screen on the truck outside one truck of a video floppy in said record processing circuit, to carry out processing with the same still more nearly said of the 26 to 50 next truck, and to record on an outside truck further from the truck of said outside.

[0005]

[Function] According to the above-mentioned configuration, a multi-screen is created about the video floppy, and if it records on the truck of the outside of one truck, 25 multi-screens to 26 to 50 trucks can be displayed on monitor display up to 1 to 25 trucks in an instant.

[0006]

[Example] Hereafter, with reference to a drawing etc., this invention is explained in more detail. Drawing 1 is the circuit block diagram showing the example of the table-of-contents screen recording apparatus by this invention. As for the video floppy 2, rotational speed and a phase are controlled by the disk drive circuit 1. Moreover, a head 14 is moved to the truck specified with a system controller 4 by the head controller 5. The image information recorded on the image information or the video floppy 2 in which reading appearance is carried out by the head 14 from the video floppy 2 is amplified with record/playback amplifier 3. The record digital disposal circuit 13 is connected to the input of record/playback amplifier 3, and the regenerative-signal processing circuit 7 is connected to the output, respectively. After the record digital disposal circuit 13 carries out emphasis processing of the video signal, it changes into a record signal format, FM applying it. The above-mentioned record digital disposal circuit 13 carries out reverse processing, and the regenerative-signal processing circuit 7 restores to the signal of a record signal format, and carries out de-emphasis processing.

[0007] The output of the regenerative-signal processing circuit 7 is connected to a monitor 11 and the multi-screen creation section 15, respectively. The multi-screen creation section 15 consists of A/D converter 8, an image memory 9, D/A converter 10, and a memory controller 12. The memory controller 12 performs cutback processing of an image to an image memory 9 according to the control signal from a system controller 4. That is, to the image of a truck, in order to reduce to 1/25 by surface ratio, infanticide of the scanning line and a sampling signal is performed, and it memorizes to the address space of the image memory 9 currently assigned to the truck. The information on 25 multi-screens is memorized by repeating the above-mentioned actuation to 25 trucks in an image memory 9. The image information by which reading appearance is carried out from an image memory 9 is returned to analog information by D/A converter 10, and the analog information is inputted into the record digital disposal circuit 13. Moreover, the output of D/A converter 10 is connected also to the monitor 11.

[0008] Multi-screen record and playback actuation are explained below. If it is equipped with the recorded video floppy 2 and a multi-screen recording mode is specified by the mode assignment key 6, a system controller 4 will read a record image in sequence [truck / of the video floppy 2 / one]. This read record image is reproduced by the baseband video signal from the signal of a record format in the regenerative-signal processing circuit 7, and cutback image information is memorized in the address space currently assigned to each truck response of an image memory 9. And if it memorizes in the address space of the image memory with which the image of 25 trucks is assigned, while positioning a head 14 in -1 truck from 25 trucks, the information on 25 multi-screens will be read from an image memory 9. After the information on 25 multi-screens is changed into analog information, by the record digital disposal circuit 13, emphasis processing is carried out, FM modulation is carried out, and it is recorded on -1 truck of a video floppy. 25 multi-screen processing is similarly carried out about the image currently

recorded even on 26 to 50 truck next, and it is recorded on -2 truck. Thus, when recorded, after a system controller 5 positions 14 in the truck of -2 with a head -1 first in reproducing the video floppy by which the multi-screen was recorded, distinguishing the existence of record of the image of 25 multi-screens, and restoring to the image of 25 multi-screens of the truck of -1 to a baseband video signal in read-out and the regenerative-signal processing circuit 7, it reproduces to a monitor 11. When not recorded, it is automatically positioned in the truck of 1. If the directions which should reproduce 25 multi-screens of 26 to 50 truck next are given, the image of 25 multi-screens of the truck of -2 will be reproduced to read-out and this appearance.

[0009] Drawing 2 is the schematic diagram showing the truck configuration of a video floppy. The truck from the truck of 1 to 50 is formed in the video floppy 2 toward inner circumference from the periphery. Spacing of a truck is set to 100 micrometers. The image of 25 multi-screens to one to 25 truck flies zero truck of the outside of one truck, and is recorded on -1 truck. Zero truck is not used for avoiding the adverse effect to one truck, and incorrect playback. The image of 25 multi-screens to the 26 to 50 next truck is further recorded on -2 truck of the outside. The example of 25 multi-screens of the truck of -1 and -2 is shown in drawing 3.

[0010]

[Effect of the Invention] As mentioned above, if the table-of-contents screen recording apparatus by this invention records 25 multi-screens of one to 25 truck of a video floppy on -1 truck, and records 25 multi-screens of 26 to 50 truck on -2 truck, respectively, as explained, and it is recorded on -1 and -2 truck at the time of playback, since 25 multi-screens can be reproduced, a high definition menu screen can be obtained and the content of the video floppy can be known quickly. Since the table-of-contents screen recording apparatus by this invention can be constituted only from changing the connection configuration of the circuit section of a multi-screen function a little, and changing the system of a control section, it does not require the addition of a new hard part, but can realize it by the low price. Moreover, since the truck of -1 and -2 is used, it does not have an adverse effect on other contents of record of a video floppy, and does not destroy. Even if it reproduces the video floppy which could carry out this invention within the specification of an electronic still video system, and was recorded on the truck of -1 and -2 with this invention equipment from other models, one to 50 truck is reproduced satisfactory.

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DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] It is the circuit block diagram showing the example of the table-of-contents image recording equipment by this invention.

[Drawing 2] It is the schematic diagram showing the configuration of the truck of a video floppy.

[Drawing 3] - It is drawing showing the example of 25 multi-screens recorded on the truck of 1 and -2.

[Description of Notations]

- 1 — Disk drive circuit
- 2 — Video floppy
- 3 — Record/playback amplifier
- 4 — System controller
- 5 — Head controller
- 6 — Mode assignment key
- 7 — Regenerative-signal processing circuit
- 8 — A/D converter
- 9 — Image memory
- 10 — D/A converter
- 11 — Monitor
- 12 — Memory controller
- 13 — Record digital disposal circuit
- 14 — Head
- 15 — Multi-screen creation section

[Translation done.]

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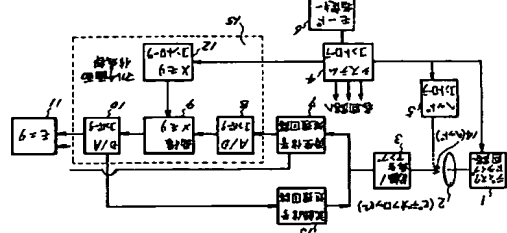
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(54)【発明の名称】 目次画面記録装置

(57)【要約】

【目的】 ビデオフロッピーを入れ換えてもその度にマルチ画面を作成する必要がなく、マルチ画面を2.5分間にして各画面の質の低下を防止し、ビデオフロッピーを抜取すれば同時に画像による目次を表示する。

【構成】 1～2.5トラックまでの画面が順次に読み出され、マルチ画面作成部15で2.5マルチ画面の画像が画像メモリ9に記録される。この2.5マルチ画面の画像は記録信号処理回路13によって1のトラックに記録される。2.6～5.0トラックまでの画面も同様にマルチ画面処理されて2のトラックに記録される。再生時、1～および2のトラックに記録されている画像、2.5マルチ画面の画像をモニタに引出す。



【特許請求の範囲】

【請求項1】 ビデオフロッピーの各トラックの画像を録出し再生処理を行う再生処理回路と、前記再生処理回路で再生した画像のマルチ画面を作成するマルチ画面作成部と、前記マルチ画面作成部で作成されたマルチ画面を記録形式に変換してビデオフロッピーに記録する記録処理回路と、マルチ画面記録モードに設定したとき、前記再生処理回路により記録済ビデオフロッピーより1～2.5トラックの画像を録出し前記マルチ画面作成部で2.5マルチ画面を作成し、前記記録処理回路でビデオフロッピーの1トラックより外側のトラックに前記マルチ画面を記録し、さらにつぎの2.6～5.0トラックについて同様な処理をして前記外側のトラックよりさらに外側のトラックに記録する目次画面記録装置。

【発明の詳細な説明】

【0001】

【産業上の利用分野】 本発明は電子スチルカメラで撮影した複数の画像をビデオフロッピーより録出してマルチ画面処理し、これをビデオフロッピーの1トラックより外側のトラックに記録することによりビデオフロッピーに1～5.0トラックの画像に対応して画像目次を設けることができる目次画面記録装置に関する。

【0002】

【従来の技術】 電子スチルカメラシステムに設けられている従来のマルチ画面表示機能はつぎのようなものであった。①ビデオフロッピーの一欄目から順次にマルチ画面メモリに取り込み、マルチ画面メモリに記憶した画像をモニタに表示することによりマルチ表示するもの。②ビデオフロッピーの2～5.0トラックまたは1～4.9トラックの画像を4.9分間のマルチ画面にしてそのマルチ画面をモニタに表示するもの (特開平2-82768)。

【0003】

【発明が解決しようとする課題】 上記①、②いずれの場合もマルチ画面を作成するには一定の時間を要し、前者は、ビデオフロッピーを入れ換える場合にはその度に最初からマルチ画面を作成し直さなければならないという欠点があった。また、後者は1トラックまたは5.0トラックの画像はマルチ画面で見ることができず、一面面を4.9分間しているため個々の画像の質が悪く、再生するモニタ画面が小さい場合には画面自体の内容の確認が困難になるという欠点があった。本発明の目的は上記各欠点を解決するもので、ビデオフロッピーを入れ換えてもその度にマルチ画面を作成する必要がなく、マルチ画面を4.9分間のマルチ画面ではなく2.5分間のマルチ画面にして各画面の質の低下を防止し、ビデオフロッピーを抜取すれば同時に画像による目次を表示させることができる目次画面記録装置を提供することにある。

【0004】

【課題を解決するための手段】 前記目的を達成するために本発明による目次画面記録装置はビデオフロッピーの各トラックの画像を録出し再生処理を行う再生処理回路と、前記再生処理回路で再生した画像のマルチ画面を作成するマルチ画面作成部と、前記マルチ画面作成部で作成されたマルチ画面を記録形式に変換してビデオフロッピーに記録する記録処理回路と、マルチ画面記録モードに設定したとき、前記再生処理回路により記録済ビデオフロッピーより1～2.5トラックの画像を録出し前記マルチ画面作成部で2.5マルチ画面を作成し、前記記録処理回路でビデオフロッピーの1トラックより外側のトラックに前記マルチ画面を記録し、さらにつぎの2.6～5.0トラックについて同様な処理をして前記外側のトラックよりさらに外側のトラックに記録するように制御する制御部とから構成されている。

【0005】

【作用】 上記構成によれば、そのビデオフロッピーについてマルチ画面を作成して1トラックの外側のトラックに記録しておけば、1から2.5トラックまでおよび2.6から5.0トラックまでの2.5マルチ画面を同時にモニタ画面に表示できる。

【0006】

【実施例】 以下、図面等を参照して本発明をさらに詳しく説明する。図1は本発明による目次画面記録装置の実施例を示す回路ブロック図である。ビデオフロッピー2はディスクドライブ回路1により回転速度および位相が制御される。また、ヘッド14はヘッドコンントローラ5によってシステムコンントローラ4で指定されるトラックに移動させられる。ヘッド14によりビデオフロッピー2から読み出される画像情報はビデオフロッピー2に記録される画像情報記録/再生アンプ3によって増幅される。記録/再生アンプ3の入力には記録信号処理回路13が、出力には再生信号処理回路7がそれぞれ接続されている。記録信号処理回路13は映像信号をエンファシス処理した後、FM変調をかけて記録信号形式に変換するものである。再生信号処理回路7は上記記録信号処理回路13の逆処理するもので、記録信号形式の信号を復調してデエンファシス処理する。

【0007】 再生信号処理回路7の出力はモニタ11とマルチ画面作成部15にそれぞれ接続されている。マルチ画面作成部15はA/Dコンバータ8、画像メモリ9、D/Aコンバータ10およびメモリコンントローラ12より構成されている。メモリコンントローラ12はシステムコンントローラ4からの制御信号にしたがって画像メモリ9に対し、画像の縮小処理を行う。すなわち、トラクタの画像に対し、面積比で1/2.5に縮小したため走査線およびサンプリング信号の間引きを行い、そのトラックに割り当てられている画像メモリ9のアドレス空間に記録する。2.5個のトラックに対し上記動作を繰り返すことにより2.5マルチ画面の画像が画像メモリ9に記

